

ABSTRACT OF THE DISCLOSURE

Inorganic oxides, particularly silica or germania or inorganic oxides containing silica and/or germania, are imprinted with one or a plurality of functional moieties such as amine and/or thiol groups by a process featuring incorporating such groups into the oxide by use of a thermally labile material containing a protecting group for the amine or thiol, followed by removal of the thermally labile moiety by thermolysis.

The resulting products are inorganic oxide substrates or bulk inorganic oxides imprinted with the functional moieties. A plurality of such moieties may be imprinted on a substrate in an order fashion using a polymeric imprinting compound, and may then be used as a templated array of functional moieties to which ordered metallic nanostructures may be constructed.